

STATE of CALIFORNIA - DEPARTMENT of TRANSPORTATION
POSITION DUTY STATEMENT
PM-0924 (REV 9/2001)

CLASSIFICATION TITLE Materials & Research Engineer Associate		DISTRICT/DIVISION/OFFICE 11/Engineering/Materials Lab	
WORKING TITLE Source Inspection		POSITION NUMBER 911-320-3381-	EFFECTIVE

As a valued member of the Caltrans team, you make it possible for the Department to improve the mobility across California by being innovative and flexible; reporting to work regularly and on time; working cooperatively with team members and others; and treating others fairly, honestly and with respect. Your efforts are important to each member of the team, as well as those we serve.

GENERAL STATEMENT:

Under general direction of a Senior Transportation Engineer, the incumbent insures the quality of manufactured commercial and structural materials used in highways, structures, and buildings by inspection, sampling and testing. Knowledge of contract specifications, American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation (AASHTO), local and national codes, American Welding Society (AWS) and other specifications is essential. Process and prepare appropriate reports of inspection and release of materials. Maintain records and reports of inspection.

TYPICAL DUTIES:

<u>Percentage</u>	<u>Job Description</u>
Essential (E)	
Marginal (M)	

25 % E	<u>Concrete Products:</u> 1. Inspect various precast concrete products, and test materials used. 2. Inspect vertical cast reinforced concrete pipe and test by three edge bearing method. 3. Fabricate concrete cylinders for acceptance of precast products.
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25 % E	<u>Electrical:</u> 1. Inspect controllers, sample for complete electrical phase check. 2. Inspect and random sample luminaries, signal and pedestrian heads, and light standards. 3. Test electrical conductor for insulation thickness and copper size. 4. Test conduit for galvanized content.
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20 % E	<u>Signs, Wood Posts and Poles:</u> 1. Inspect guardrail, posts, sign post and poles for specified grading. 2. Assure the specified treatment is used. 3. Determine the concentration and penetration of treated materials in assay.
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4. Determine the percent moisture of sign post using the moisture meter.
5. Inspect sign panels for acceptance.

20 % E

Landscape Irrigation Materials:

1. Inspect and/or test controllers, valves, plastic and steel pipe, sprinklers and emitters.
2. Inspect all miscellaneous materials used in automatic sprinkler systems.

5 % M

Structural, Reinforcing, Steel and Prestressing Steel:

1. Determine soundness of welds by visual inspection.
3. Inspect and witness testing of mechanical welds on reinforcing steel.
4. Inspect the fabrication of structural steel members, test materials and check welds.
5. Inspect steel for grade and quality, sample for testing.
6. Inspect and sample prestressing bar and strand.

5 % M

Sewer and Water Materials:

1. Inspect valves, fire hydrants, cast iron pipe and fittings, manhole frames and covers, plastic and steel pipe. All pertinent materials used in underground work.

SUPERVISION EXERCISED OVER OTHERS:

There will be no supervision.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS:

Knowledge of: methods, materials, tools and equipment used in the inspection and testing of a wide variety of construction and other materials; physical properties, fabrication and use of Construction and other materials; contract specifications, ASTM, AASHTO, Local and National Codes, AWS, and other industry specifications and test measures.

Ability to: test, inspect and determine the quality and suitability of engineering construction and other materials; analyze situations accurately and take effective action; write clear comprehensive reports of inspection and maintain concise accurate records; interpret a wide variety of codes and specifications used to assess the quality of commercial materials.

Analytical ability to interpret project specifications and assess materials suitability is paramount. New materials and specifications are constantly being introduced requiring an ongoing review and analysis of its suitability for use.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS:

Responsible for acceptance or rejection of all commercially manufactured or fabricated materials provided by local (within district) suppliers to transportation projects across the state. Probable effect of a poor decision would range from early equipment malfunction or structural failure and higher maintenance costs to catastrophic structural failure.

PUBLIC AND INTERNAL CONTACTS:

This position requires continuous daily contacts with the manufacturing, fabricating and construction industry personnel. Internal contacts with Construction, Project Development, Headquarters and Local Agency personnel are also extensive.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS:

The position requires the ability to perform on site inspections near moving traffic on the travel way. The incumbent will perform extensive walking and occasional bending to inspect a variety of materials. The position requires occasional moving of 50+ pounds. Incumbent must be able to effectively and tactfully deal with various individuals. The incumbent is required to pick up and move heavy buckets of samples and move heavy equipment.

WORK ENVIRONMENT:

The majority of the duties will take place in the field. Some office work will be required

I have read and understand the duties listed above and can perform them with/without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this with the hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE SIGNATURE

DATE

I have discussed the duties with and provided a copy of this duty statement to the employee named above.

Alfonso Ochoa, SUPERVISOR (Print)

SUPERVISOR SIGNATURE

DATE